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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,566	06/29/2001	Joon-Ha Park	8733.454.00	5094

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EXAMINER
NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
2674	6

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/893,566	PARK ET AL.	
	Examiner	Art Unit	
	Jennifer T Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 8* is/are rejected.

7)☒ Claim(s) *6 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (U.S. Patent No. 5,867,139).

Regarding claims 1 and 8, referring to Figs. 1 and 2, Tanaka teaches a method of driving a liquid crystal display device, wherein the liquid crystal display device includes a gate line (31, 32...); a data line (41, 42...) crossing the gate line (31, 32...); a dummy gate line (30) adjacent the gate line (31, 32...); a thin film transistor (5) connected to the gate line (31) and data line (41); a first capacitor (cgd2) receiving signals from the thin film transistor (5); and a storage capacitor (13) connected to the first capacitor (cgd2), the method comprising applying a dummy gate signal (G0) to the dummy gate line (30), wherein the dummy gate signal (G0) has a substantially same waveform as a gate signal (G1, G2...) applied to the gate line (31, 32...) (see abstract, from col. 4, line 59 to col. 5, line 20 and from col. 6, line 59 to col. 7, line 47).

Regarding claims 2 and 3, Tanaka also teaches that the gate signal (G1, G2...) and dummy gate signal (G0) are pulse signals having a high period of one horizontal line period (1H) (Figs. 2 and 7).

Regarding claim 4, Tanaka further teaches the high period of the dummy gate signal (G0)

precedes the high period of the gate signal (G1, G2...) by one horizontal line period (Fig. 2. col. 7, lines 21-47).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Patent No. 5,867,139) in view if Lee (U.S. Patent No. 5,940,055).

Regarding claim 5, referring to Figs. 1 and 2, Tanaka teaches a driving circuit of a liquid crystal display device, wherein the liquid crystal display device includes a gate line (31); a data line (41) crossing the gate line (31); a dummy gate line (30) adjacent the gate line (31); a thin film transistor (5) connected to the gate and data lines; a first capacitor (cgd2) receiving signals from the thin film transistor (5); and a storage capacitor (13) connected to the first capacitor, the driving circuit comprising: a gate driver (K) producing a gate signal (G1), the gate signal (G1) being applied to the gate line (31); a data driver (L) producing a data signal, the data signal being applied to the data line (41); a dummy gate signal (G0) of a substantially same waveform as the gate signal (G1), the dummy gate signal (G1) being applied to the dummy gate line (31).

Tanaka differs from claim 5 in that he does not specifically teach a dummy gate driver producing a dummy gate signal. However, referring to Fig. 3, Lee teaches a dummy gate driver

(i.e., voltage circuit 400) producing a dummy gate signal (Vd) (col. 5, lines 50-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dummy gate driver as taught by Lee in the system of Tanaka in order to provide a driver thereof for preventing non-uniform brightness in the display device independently and efficiently.

5. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Hayashi et al. (U.S. Patent No. 6,130,654) teaches driving method of a LCD device.

Shirahashi et al. (U.S. Patent No. 5,285,301) teaches LCD device having peripheral dummy lines.

Tsukada et al. (U.S. Patent No. 4,955,697) teaches LCD device and method of driving the same.

Kim et al. (U.S. Patent No. 5,745,090) teaches wiring structure and driving method for storage capacitors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225.** The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademark

Washington, DC. 20231

Or faxed to: 703-872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T Nguyen
08/07/2003
Art Unit 2674